Stats991

Violent Crime Trends in the U.S., 1960–2019

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How have violent crime rates changed across U.S. states and from 1960 to 2019?

Introduction and Context

What this is about

How U.S. violent crime rates changed across states, 1960-2019 (FBI UCR data).

Why it matters

Trends guide policy and public safety, and state gaps show where to look deeper.

Key Variables

Variable	Definition
`state`	State name (includes D.C.)
`year`	Year of observation, 1960-2019
`data_rates_violent_all`	Total violent crime rate, reported offenses per 100,000 people
`data_rates_violent_[type]`	Rate for each crime type (assault, robbery, rape, murder), per 100,000 people
`rates_change`	A state's highest minus lowest total rate; used to rank states
`states_of_interest`	The six states with the largest change
`share`	A crime type's change from lowest to peak year, as a share of the state's total change

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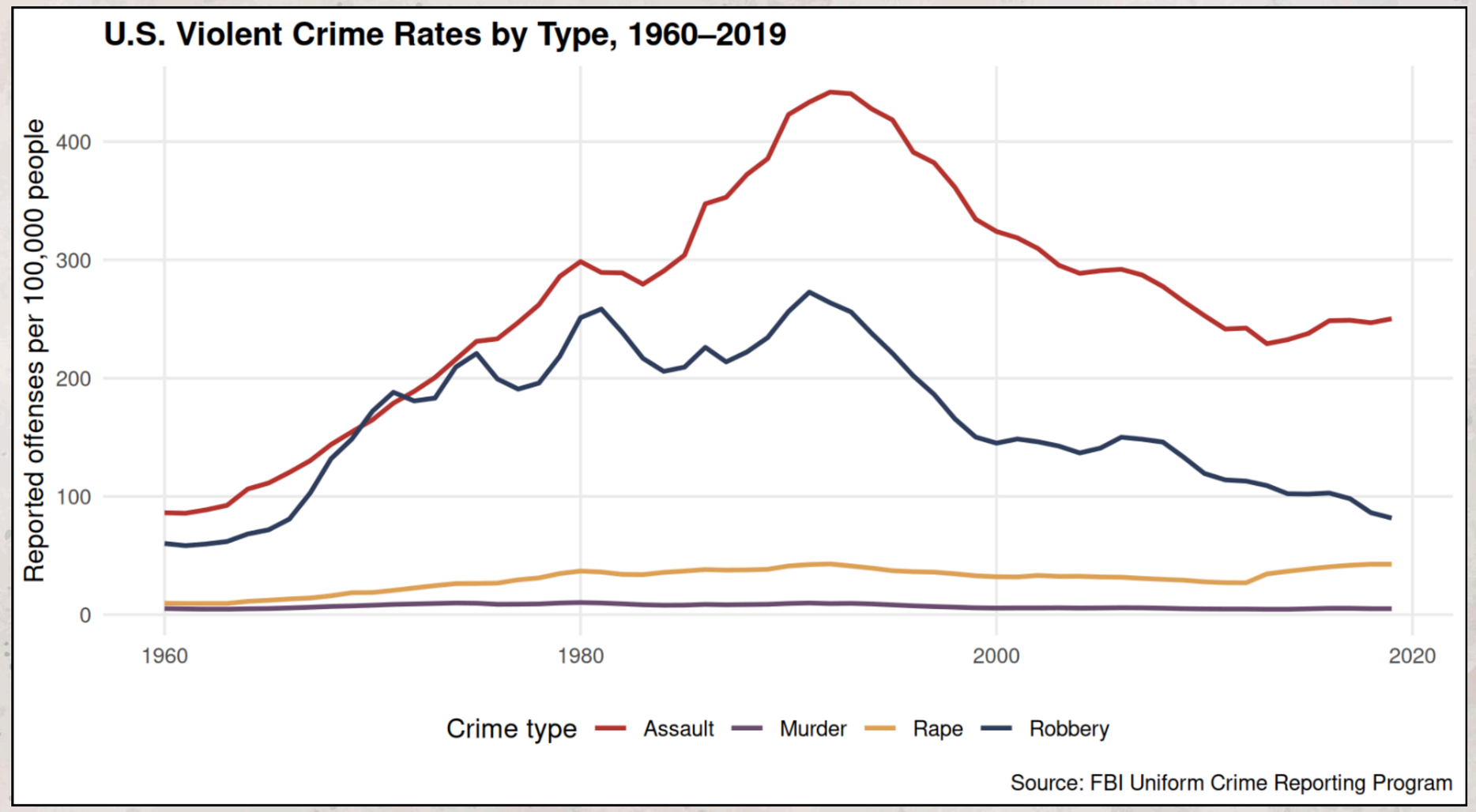
Analysis + Results

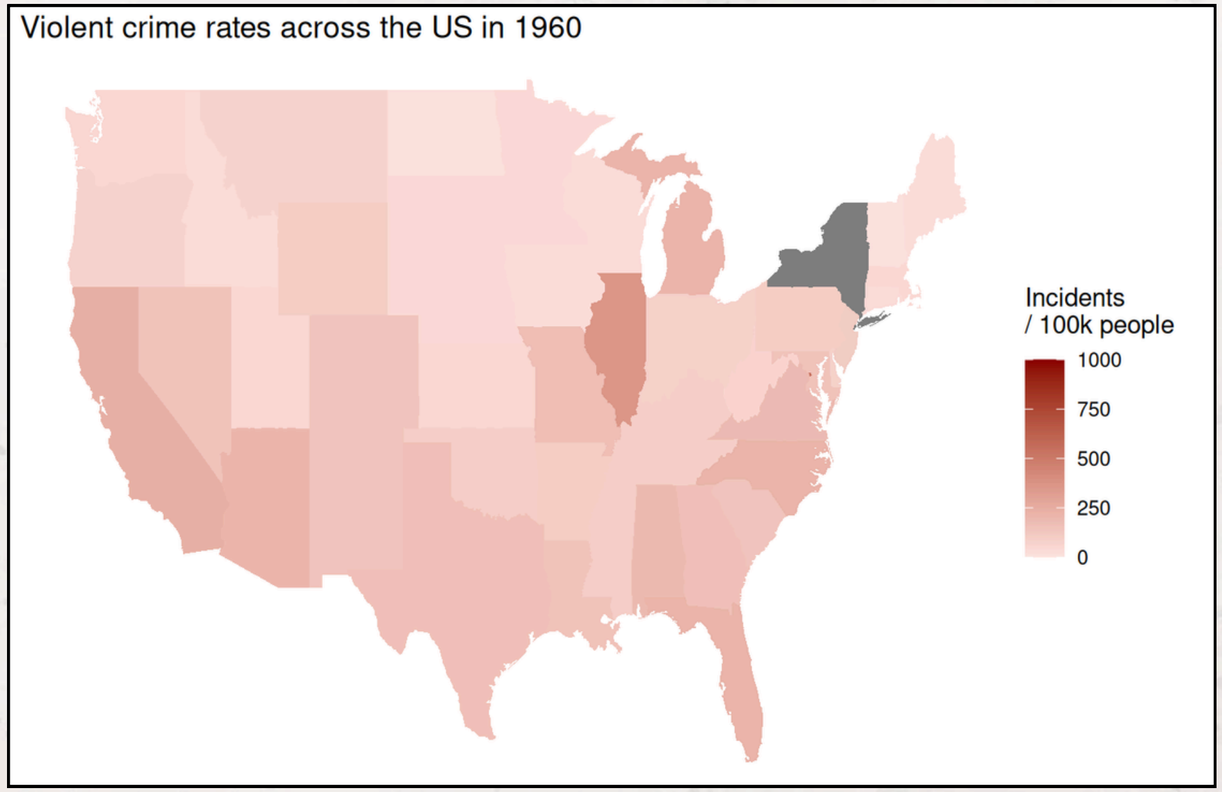

U.S. Violent Crime Rates by Type, 1960–2019
Reported offenses per 100,000 people
400
300
200
100
0
1960
1980
2000
2020
Crime type
Assault
Murder
Rape
Robbery
Source: FBI Uniform Crime Reporting Program

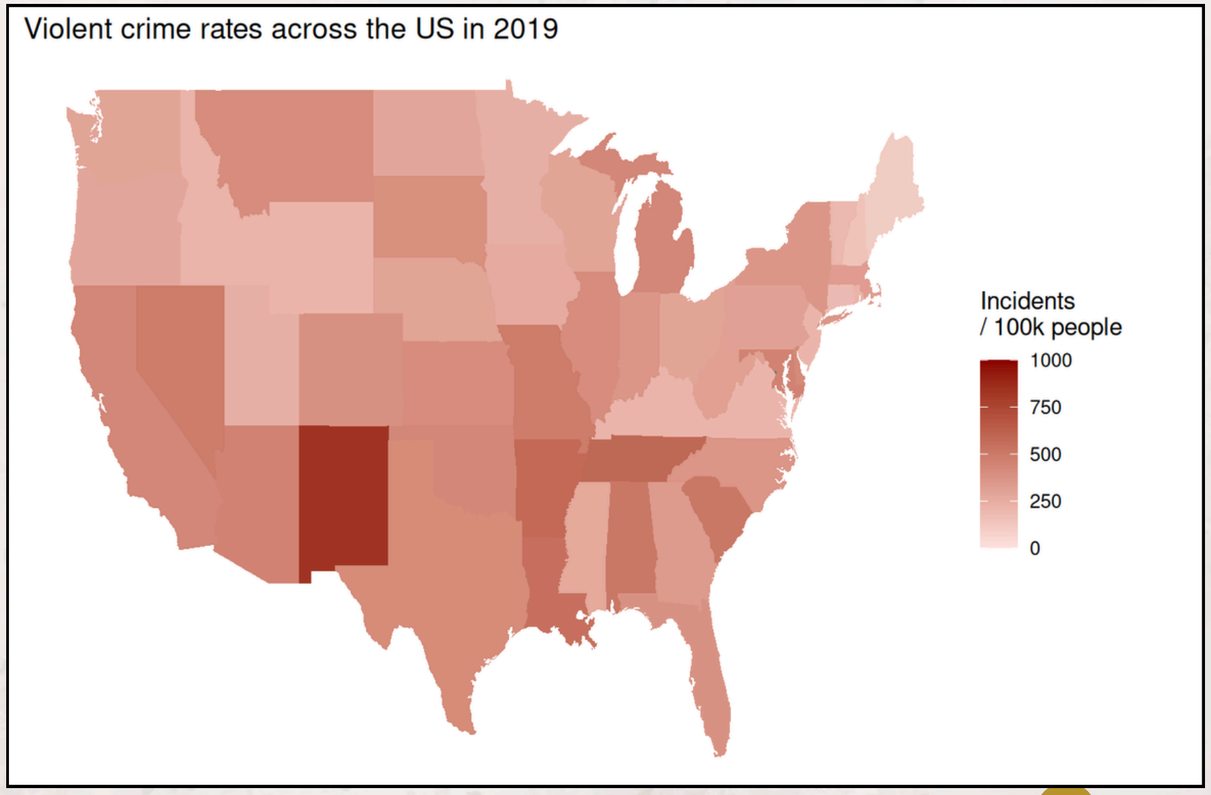
Comparison of violent crime rates across states

1960

Alaska and Hawaii are not shown

2019





*New York is colored gray because the data for violent crime rates of New York in 1960 was missing

🤔: Where Did Violent Crime Change the Most ❓

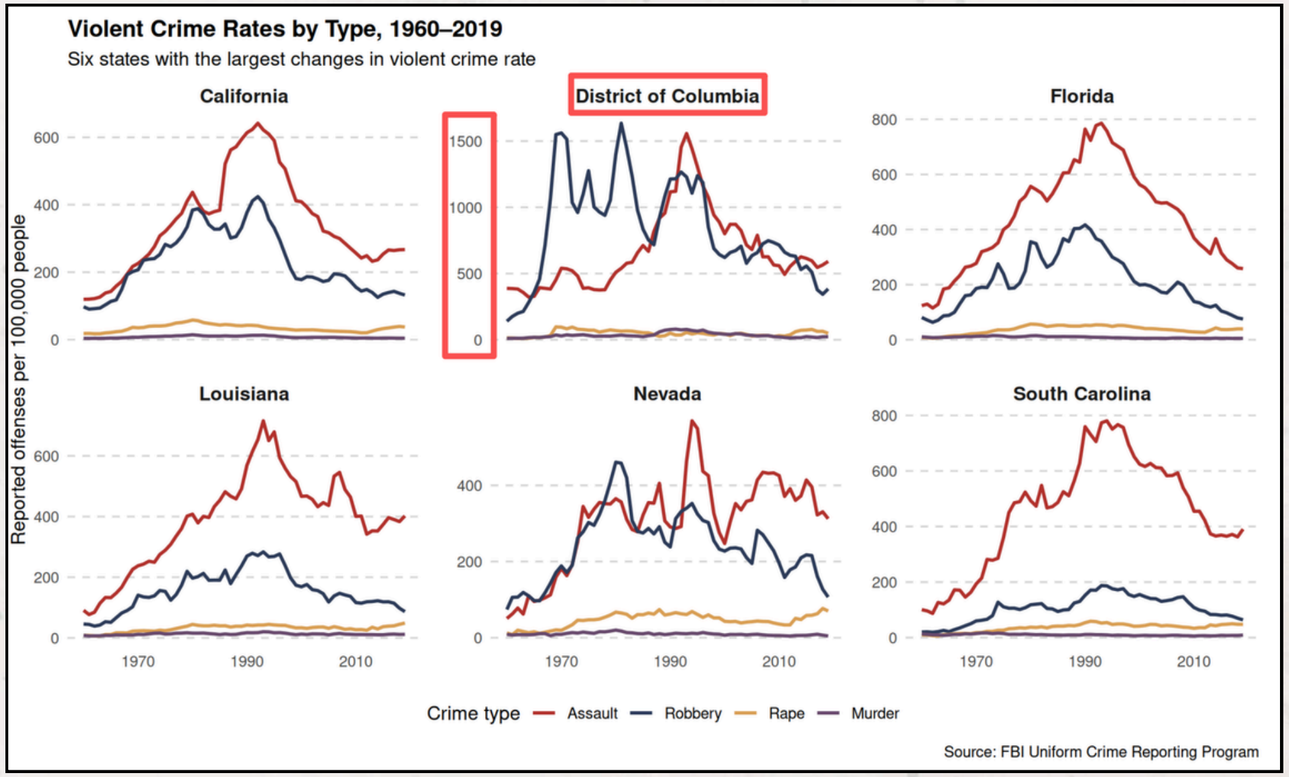
Method

Step 1: Find six states with the largest changes

Range = highest − lowest **total** violent crime rate, 1960-2019

Step 2: Plot how each crime type changed over time

```
# A tibble: 6 × 4
  state                max_rates min_rates rates_change
  <chr>                    <dbl>     <dbl>        <dbl>
1 District of Columbia     2922.      554.         2368.
2 Florida                  1244.      192.         1052.
3 Louisiana                1062.      136.          926
4 South Carolina           1030.      124.          907.
5 California               1120.      233.          887
6 Nevada                   1002.      146.          856.
```



Key Findings

- Assault (red) and robbery (blue) rose sharply from the 1960s
- All six peaked between 1990, then declined
- Rape and murder stayed low throughout

*Each panel has its own y-axis scale, because D.C.'s rates (up to ~1,600) are much higher than the other states' (up to ~800).
Compare the shapes of the lines, not their heights across panels.

🤔: How Many Percentages Each Crime Type Contribute ❓

Method

Step 1: Find each state's **peak** year and **lowest** year of total violent crime

Step 2: Calculate each crime type's change, and share of the total change

Total rate = Assault + Robbery + Rape + Murder

$$\textbf{Share} = \frac{\text{peak} - \text{lowest for } \textbf{one crime type}}{\text{peak} - \text{lowest for } \textbf{total}}$$

Step 3: Reshape the data (pivot longer, then pivot wider) so each row is **one state** and **one crime type**, with its **max** and **min** side by side

```
# A tibble: 12 × 6
   state                point Assault Robbery  Rape Murder
   <chr>                <chr>   <dbl>   <dbl> <dbl>  <dbl>
 1 California           max     642.    424.   41.3   12.7
 2 District of Columbia max    1558.   1230.   56.1   78.5
 3 Florida              max     764.    417.   52.4   10.7
 4 Louisiana            max     715.    284.   42.3   20.3
 5 Nevada               max     569.    352.   68.7   11.7
 6 South Carolina       max     780.    186.   54.3    9.6
 7 California           min     120      90.5  18.5    3.7
 8 District of Columbia min     388.    140.   14.5   10.6
 9 Florida              min     115.     63.3   5.8    7.7
10 Louisiana            min      76.9    44.4   8      6.4
11 Nevada               min      50.5    74    12.6    8.8
12 South Carolina       min      87.2    19.2   7.1    10.1
```

```
# A tibble: 24 × 6
   state                crime_type max   min change  share
   <chr>                <fct>      <dbl> <dbl>  <dbl>  <dbl>
 1 California           Assault    642.  120    522.  0.588
 2 California           Robbery    424.   90.5  334.  0.376
 3 California           Rape        41.3  18.5   22.8 0.0257
 4 California           Murder      12.7   3.7    9   0.0101
 5 District of Columbia Assault   1558.  388.  1169.  0.494
 6 District of Columbia Robbery   1230.  140.  1089.  0.460
 7 District of Columbia Rape        56.1  14.5   41.6 0.0176
 8 District of Columbia Murder      78.5  10.6   67.9 0.0287
 9 Florida              Assault    764.  115.   649.  0.617
10 Florida              Robbery    417.   63.3  354.  0.336
# ℹ 14 more rows
```

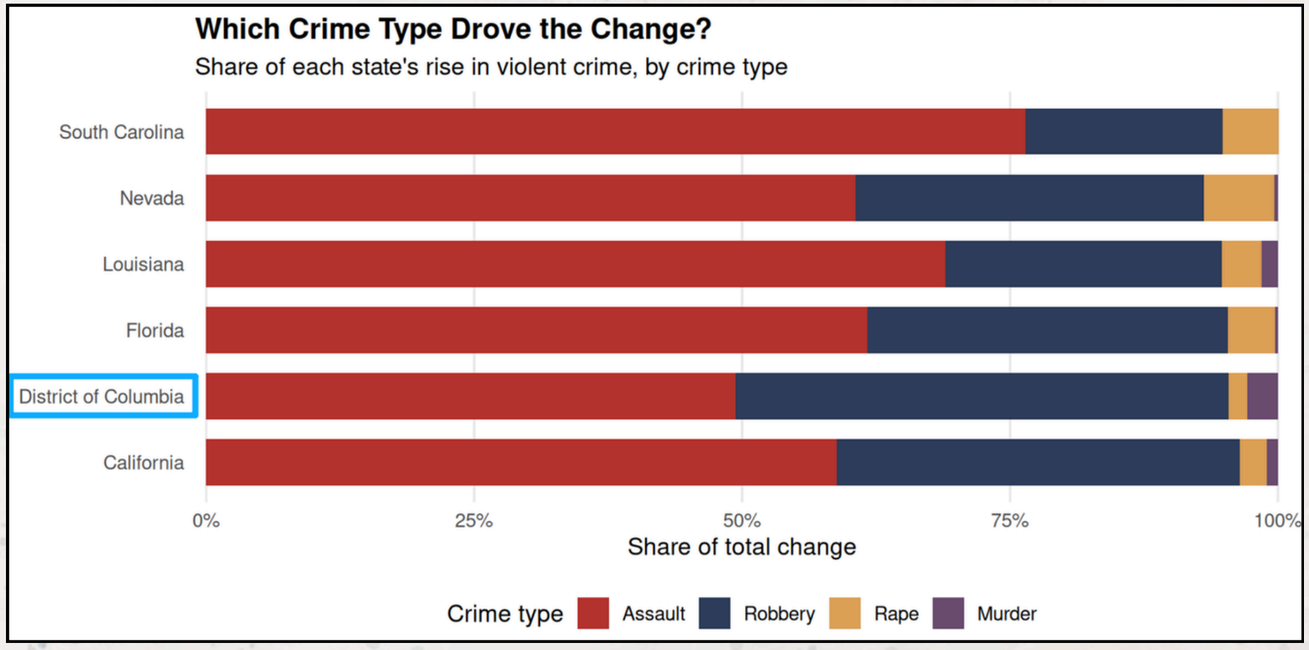
Example

California	1961	1992	Changes
Assault	120	642	522
Robbery	90.5	424	334
Rape	18.5	41.3	22.8
Murder	3.7	12.7	9
Total	233	1120	887

California	Share
Assault	$522 \div 887 \approx 59\%$
Robbery	$334 \div 887 \approx 38\%$
Rape	3%
Murder	1%

🤔: How Many Percentages Each Crime Type Contribute ❓

Step 4: Compare the shares in a stacked bar chart



Key Findings

- **Assault**: largest in all six jusridictions
  from ~49% in D.C. to ~76% in South Carolina
- **Robbery**: second largest
  But in D.C., robbery (~46%) ≈ assault (~49%)
- **Rape** and **murder** together contributed < 10%

Source:

- Rosenfeld, Richard. “Explaining the Divergence Between UCR and NCVS Aggravated Assault Trends.” *Understanding Crime Statistics: Revisiting the Divergence of the NCVS and the UCR*. Ed. James P. Lynch and Lynn A. Addington. Cambridge: Cambridge University Press, 2006. 251–268. Print. Cambridge Studies in Criminology.
- O’Hear, Michael M. ‘Violence in the Heartland, 1960-2012–Part Two: Crime Wave or Aggravated Assault Wave? – Marquette University Law School Faculty Blog’. Marquette.Edu, Jan. 2014, law.marquette.edu/facultyblog/2014/01/violence-in-the-heartland-1960-2012-part-two-crime-wave-or-aggravated-assault-wave/. Accessed 30 Oct. 2026.

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Conclusion + Discussion

Conclusion

- Violent crime rates in the U.S. peaked in the early 1990s, with assault most prevalent, murder least common, and substantial variation across jurisdictions.

Possible Explanation: level of urbanization

```
# A tibble: 6 × 3
  ST_ABBREV CODE2023     n_counties
  <chr>     <chr>             <int>
1 CA        Medium metro         12
2 FL        Medium metro         22
3 LA        Medium metro         25
4 NV        Micropolitan          6
5 NV        Noncore               6
6 SC        Medium metro         18
```

- D.C.: Large central metropolitan area
- Nevada: Relatively high concentration of micropolitan and noncore counties

Possible Explanation: reporting practices

- Changes in police recording and crime classification
- Changes in reporting behavior and social attitudes
- Increased recognition and reporting of domestic violence

Thank you!